Monitor 7" RLED/LEDD

User manual
No. UM0972080 R1-4

11/2012
English

Monitor 7" RLED

Monitor 7" LEDD

ORLACO
Specialised Camera Solutions

User Manual

ORLACO Monitor 7” RLED/LEDD

Manual number IM0972080, Version R1-4

Monitor 7” RLED

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Introduction

Check with Orlaco which language versions are available. This manual contains user instructions. Used photographs and illustrations give general information and may differ from the products you use.

Contact your Orlaco dealer if you have questions, additional information, or want to make changes that are not described in this manual.

The camera and monitor systems from Orlaco comply with the latest CE, ADR, EMC and mirror-directive regulations. All products are manufactured in accordance with the ISO 9001 quality management, ISO/TS16949 quality automotive and ISO 14001 environmental management.

Monitor 7” RLED

For installation Orlaco Monitor 7” RLED see Manual IM0973270.
For installation Orlaco Monitor 7” LEDD see Manual IM0973260.

Used abbreviations

ABC	= Auto Backlight Control
AFZ	= Auto Focus Zoom
AGC	= Automatic Gain Control
BHO	= Black Hot
CCC	= Compact Color Camera
LUT	= Look Up Table
DDE	= Digital Detail Enhancement
FFC	= Flat Field Correction
FUS	= Fusion
I&F	= Ice and Fire
NTS	= NTSC
OSD	= On Screen Display
PTZ	= Pan & Tilt Zoom
RB	= Rainbow
Stndrd = Std	= Standard
TIC	= Thermal Image Camera
WHO	= White Hot

Article numbers ORLACO Monitor 7”

This manual describes the operating instructions of the following ORLACO article numbers. The article numbers can be found on the label on the back of the Monitors.

Back side Monitor 7” LEDD

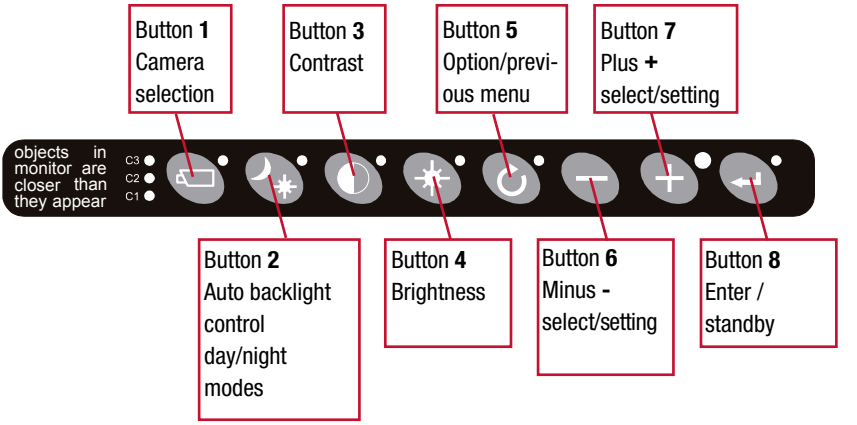
RLED	LEDD
0208500	0208203
0208550	0208232
0208590	0208242
0208603	0208312
0208612	0208361
0208622	0208371
0208632	0208422
0208642	
0208652	
0208662	
0208672	
0208681	
0208691	
0208702	
0208712	
0208831	
0208871	
0208902	
0208922	
0208950	
0208991	
0209110	

Version details

Version R1-0. First issue, November 2012.
Version R1-1. Article numbers added, December 2012.
Version R1-2. Article number added, March 2013.
Version R1-3. Languages (3), CAN-ID, extra AUX wire function added, August 2013.
Version R1-4. Barcode added, September 2014.

Keyboard

Below is a brief description of the button functions. See sections 3 and 4 for a more detailed explanation.



Button 1

Button 1, camera selection

Press the camera selection button once. The camera LED flashes to indicate that manual camera selection is enabled. Use the minus and plus buttons to select the camera. Press the button again to disable manual camera selection.

Button 2

Button 2, auto backlight control day/night settings

Press this button to switch between the auto backlight day and night settings.

Button 3

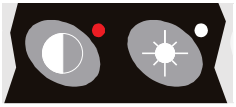
Button 3, setting the contrast

Press the button once in order to enable the setting mode. Use the minus and plus buttons to set the required contrast. Press the button again to disable the setting mode.

Button 4

Button 4, setting the brightness

Press the brightness button once in order to enable the setting mode. Set the required brightness using the minus and plus buttons. Press the button again to disable the setting mode.



Button **3 + 4**

Buttons 3 and 4, setting color saturation

Press the contrast (3) and brightness (4) buttons simultaneously to enable the setting mode. Set the required color saturation using the minus and plus buttons. This setting must be set separately for each camera.

Button **5**

Button 5, option/previous menu

Return to the previous menu.

Button **6**

Button 6, minus

Go to the next menu option or move left.

Button **7**

Button 7, plus

Go to the previous menu option or move right.

Button **8**

Button 8, enter

Switch to Standby or in the menus, select or activate the chosen option.

2.1. Disclaimer

When switching on the monitor for the first time, a disclaimer appears in English for 5 seconds (see Figure 1).
Displayed text: *Do not operate display functions during safety critical operations. Objects in the monitor are closer than they appear.* If a different language is subsequently set, the disclaimer text appears in the set language.

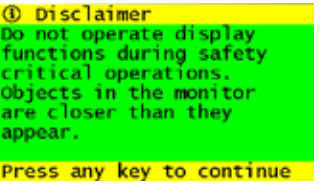

Disclaimer
Do not operate display functions during safety critical operations. Objects in the monitor are closer than they appear.
Press any key to continue

Figure 1

2.2. Description of the keyboard

Button no. **1** = Camera selection
Button no. **2** = Auto LCD backlight control day/night settings
Button no. **3** = Contrast
Button no. **4** = Brightness
Button no. **5** = Option/previous menu
Button no. **6** = Minus selection/setting button (-)
Button no. **7** = Plus selection/setting button (+)
Button no. **8** = Enter/Standby

2.3. Language setting for the OSD (On Screen Display) menu

The OSD menu language is set as English by default. If you would like to operate the OSD menu in a different language, open the service menu → system settings. See section 4 on page 13. The OSD menu is available in English, Dutch, German, French, Chech, Hungarian, Italian, Polish, Portuguese, Spanish, Turkish, Swedish, Finnish, Danish and Norwegian.

3.1. Button 1, camera selection

Press the camera selection button (1) once (see Figure 2). The camera LED flashes to indicate that manual camera selection is enabled (see Figure 3). Press the button again to disable manual camera selection. Use the minus and plus buttons to select the camera.

The other buttons (3 = contrast, 4 = brightness and 3+4 = saturation) can also be used and these functions can be adjusted with the minus and plus buttons. Disable the function by reselecting a camera with the minus and plus buttons.

Manual camera selection has priority over the scan function and the switchwires. The button function can be disabled in the service menu via the option 'system settings → keyboard → keyboard lock'. See system settings for more information (section 4.3. on page 13).

3.2. Button 2, auto LCD backlight control day/night settings

See figure 4.
For a compact camera, press this button to switch between:
- The ABC mode
- The LCD backlight day setting
- The LCD backlight night setting

TIC and AFZ cameras are exceptions. For these, pressing button 2 makes other functions available (see sections 3.8.1. and 3.8.2. on page 9).

The ABC mode controls the backlight between a minimum (adjustable; see also under service menu on page 16) and a maximum level depending on the intensity of the ambient light. A light sensor on the keyboard measures the ambient light (see Figure 6).

In the day and night mode the brightness of the backlight can be manually set using the minus and plus buttons (the settings are saved). These settings are not camera dependent and therefore apply for all cameras (see Figure 5).

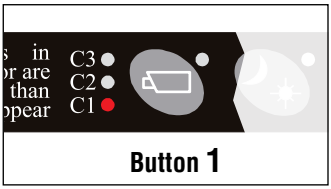


Figure 2

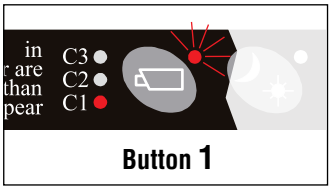


Figure 3

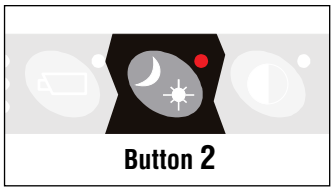


Figure 4

Figure 5

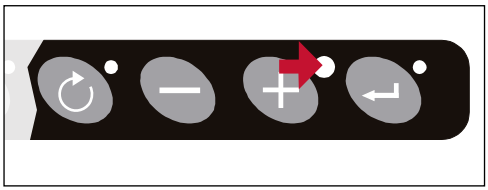


Figure 6

3.3. Button 3, setting the contrast

Press the contrast button (3) once to enable the setting mode (see Figure 7). Use the minus and plus buttons to set the required contrast. This setting must be set separately for each camera.

3.4. Button 4, setting the brightness

Press the brightness button (4) once to enable the setting mode (see Figure 8). Set the required brightness using the minus and plus buttons. This setting must be set separately for each camera.

3.5. Buttons 3 and 4, setting color saturation

Press the contrast (3) and brightness (4) buttons simultaneously to enable the setting mode.
Set the required color saturation using the minus and plus buttons. This setting must be set separately for each camera.

3.6. Locking buttons 2, 3 and 4

These buttons can be locked in the service menu (section 4.3.3. keyboard, see page 13).

3.7. Button 5, option button

- **Single scan sequence**
  If the option button (5) is pressed and a CCC is selected (see camera settings on page 10), then the LEDD Monitor generates a single scan (not continuous) of multiple connected cameras in a sequence (using the set time interval. The scan time must only be set if the main scan is started and then stopped again). See page 15, scanning.
- **Connection with an AFI/AFZoom camera**
  This option enables the zoom function (indicated by the illuminated button). The zoom factor can be changed using the plus and minus buttons.
- **Connection with a TIC camera**
  Zoom factors for a TIC camera are: 1x (standard display), 2x and 4x. When zooming out to 1x, the pan/tilt function is set at the starting point.
- **Connection with a PTZ camera**
  If pan/tilt is enabled and the option button (button 5) is pressed several times, then the ZOOM, PAN, TILT sequence is run through (see Figure 10). The minus and plus buttons are used to activate the ZOOM, PAN or TILT movement (PAN and TILT for a TIC camera only work if the digital zoom is 2x or 4x).

The TIC camera video standard and spot meter settings are only accessible via the camera menus. There are no keys for direct access to these settings.
See page 10, section 4: service menu, camera settings.

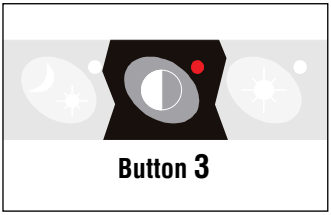


Figure 7

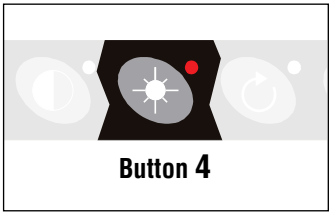


Figure 8

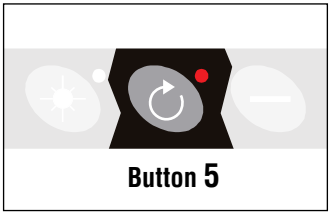


Figure 9

3.8. Quick settings

When in normal image mode, the following quick settings are available as shortcuts:

3.8.1. TIC camera

When a TIC camera is selected and button 2 (Figure 12) is pressed, then Color LUT and DDE quick settings are enabled (indicated by illuminated button 2). Using the minus button (button 6), the Color LUT settings (WHO, BHO, FUS, RB, I&F) can be selected (see Figure 11). Using the plus button (button 7), the DDE settings (OFF, LOW, MED, HI) can be selected.
If button 2 (Figure 12) is pressed for more than 3 seconds, then the TIC camera performs a FFC (Flat Field Correction) cycle.

3.8.2. AFZ camera

If an AFZ camera is selected and button 2 is pressed (Figure 12), then the zero lux and backlight functions of the AFZ camera are enabled/ disabled.

3.8.3. CCC camera

If a CCC is selected, then pressing button 2 (Figure 12) switches between all backlight settings for the entire system (DAY, NIGHT, ABC). See section 3.2.

Figure 10

Figure 11

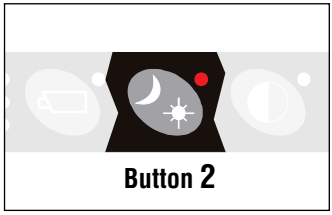


Figure 12

4. Using the service menu

To open the service menu, simultaneously press the camera selection button (1), the minus button (6) and the plus button (7) (see Figure 13). The Monitor (see Figure 14) will appear. The following buttons are used to navigate through the menus:

5 - Option/previous menu: Return to the previous menu
6 - Minus: Go to the next menu option
7 - Plus: Go to the previous menu option
8 - Enter: Select or enable the chosen option

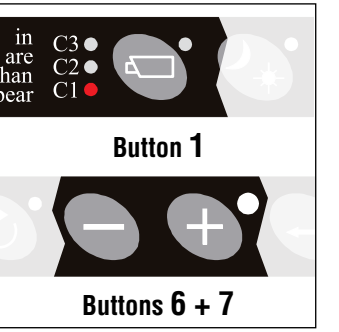


Figure 13

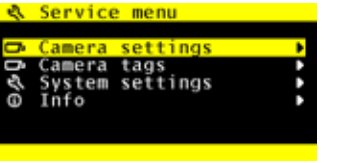


Figure 14

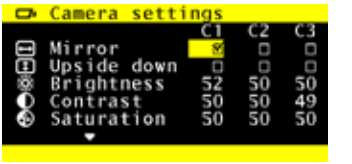


Figure 15

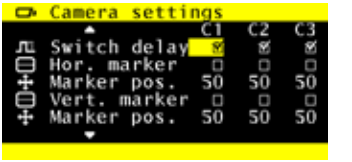


Figure 16

4.1. Camera settings

Select camera settings. Press enter to open the 'Camera settings' menu. Use the minus (6) and plus (7) buttons to select which camera to configure. Then confirm this selection by pressing the enter button (8). The yellow cursor is now activated in the list of items. Use the minus (6) and plus (7) buttons to select the item to adjust and then confirm this selection by pressing the enter button. If the selection is an on/off switch, you can choose between on and off. If the selection is a number, you can change the value using the minus (6) and plus (7) buttons. Save the new settings by pressing the enter button (8).

4.1.1. Mirror

Enable this option to reverse the image (left/right).

4.1.2. Upside down

This option flips the image (upside down).

4.1.3. Brightness

The setting for the brightness of the monitor. For direct button operation: Button 4.

4.1.4. Contrast

The setting for contrast on the monitor. For direct button operation: Button 3.

4.1.5. Saturation

The color saturation setting for the camera image. For direct button operation: Buttons 3+4.

4.1.6. Switch delay

Enable this option if the switchwire is controlled by an intermittent signal (e.g. from an indicator light).

4.1.7. Horizontal marker

Enable this option to show a reference line. The reference line is displayed as a horizontal green line. See Figure 40 on page 19.

4.1.8. Marker position

Adjusts the vertical height of the reference line. 0 corresponds to the top edge of the monitor and 100 to the bottom edge.

4.1.9. Vertical marker

Enable this option to show a reference line. The reference line is displayed as a vertical green line. This option is not available on all RLED/LEDD models. See Figure 40 on page 19.

4.1.10. Marker position

Adjusts the vertical position of the reference line. This can be set between 38 and 63. The left and right sides swap position depending on the settings of the camera mirror-image function.

4.1.11. Graticule

This option shows a graticule for a rearview camera on the monitor. See Figure 40 on page 17.

4.1.12. Cinema mode

The camera image is displayed in widescreen when this option is enabled.

4.1.13. Camera type

Select the camera type that is connected. The special features of that camera type will then become available. The camera types that can be selected are:

AFZ: Enable this option if an AFI/AF zoom camera is connected. If AFZ is selected, the backlight, zero lux and stabilizer options are enabled.
Operation of the zoom function:

Button 5 - Enable the zoom function. The zoom function is disabled if the button is pressed again.

Button 6 - Zoom out.

Button 7 - Zoom in.

TIC: Enable this option if a Thermal Image Camera (TIC) is connected. If TIC is selected, then the video standard, color LUT, TIC DDE and spot meter options are enabled.

CCC: Enable this option if a Compact Color Camera (CCC) is connected.

4.1.14. Video stndrd

Video standard: The camera type must be set to TIC. Select the standard video output for the camera: PAL or NTSC (NTS).

4.1.15. Backlight

This option corrects the background light in order to improve the screen Monitor of dark objects in bright/lit surroundings. This option is only available if an AFZ camera is connected to a serial 7" RLED/LEDD Monitor. For direct button operation: Button 2.

4.1.16. Zero lux

Enable this option to improve the light sensitivity of the camera in dark surroundings. This option is only available if an AFZ camera is connected to a serial 7" RLED/LEDD Monitor.

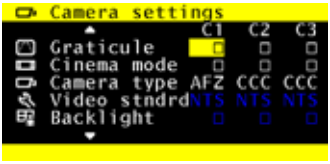


Figure 17

Depending on the choice of camera type (see Figure 17), the settings marked in blue will or will not be available.

Figure 18

4.1.17. Stabilizer

This option enables the stabilizer function, if the camera has one. This option is only available if an AFZ camera is connected to a serial 7" RLED/LEDD Monitor.

4.1.18. Color LUT (look up table)

The camera type must be set to TIC. Select the color palette to be used to give the correct color temperature. Select from WHO (white hot), BHO (black hot), FUS (mixed), RB (rainbow) and I&F (ice and fire). The AGC (automatic gain control) is automatically set for the WHO, BHO, FUS and RB settings.

4.1.19. TIC DDE (TIC digital detail enhancement)

Possible settings are: OFF, LOW, MED and HI. Select the desired degree of image enhancement.

4.1.20. Spot meter

Only works if TIC is selected as the camera type (see section 4.1.10. on page 11):

OFF (spot meter off)
B C (bar in Celsius)
B F (bar in Fahrenheit)
N C (number in Celsius)
N F (number in Fahrenheit)
BNC (bar + number in Celsius)
BNF (bar + number in Fahrenheit)

4.1.21. Pan/tilt

Enabling the pan/tilt function makes standard pan and tilt operation possible (option button = button 5). It is possible to use digital pan/tilt when the TIC image is zoomed 2x or 4x.

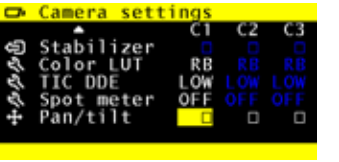


Figure 19

4.2. Camera tags

See Figure 20. In this menu, names can be given to the camera inputs. See Figure 21.

The number of inputs depends on the video switch type that is set (see section 4.3.8. on page 15).

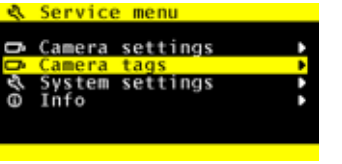


Figure 20

Figure 21

4.3. System settings (see Figure 22)

4.3.1. Language

See Figure 23. This option opens the language selection menu. The selected language will be used for all OSD menus. The OSD menu is available in English, Dutch, German, French, Chech, Hungarian, Italian, Polish, Portuguese, Spanish, Turkish, Swedish, Finnish, Danish and Norwegian.

4.3.2. On Screen Display (OSD)

This option opens the OSD settings menu. See Figures 24 + 25. The following can be set in this menu:

OSD time-out

Sets the time (in seconds) that the OSD (camera number/name, top left) appears on the monitor. Select 'Off' to disable this and 'On' to have this permanently enabled.

Position of the OSD

This option is used to set the horizontal position of the OSD menu text.

Info transparency

Changes the transparency of the camera tag, etc.

Menu transparency

Changes the transparency of the system menu.

Disclaimer transparency

Changes the transparency of the disclaimer when starting up.

OSD menu help

This function enables or disables the automatic text messages of the OSD help menus. If enabled, help messages automatically appear in all menus after 10 seconds of inactivity.

4.3.3. Keyboard

This option opens the keyboard menu. See Figure 26. This menu has the following 3 options:

Keyboard lock

This option opens the settings menu for the keyboard lock. It is possible to lock various functions in order to prevent any unwanted changes. See Figure 27.

The **keyboard sound** and **beeper volume** functions are not available on all Orlaco Monitors.

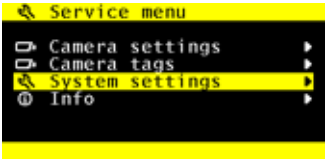


Figure 22

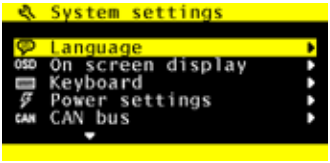


Figure 23

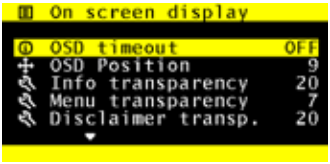


Figure 24

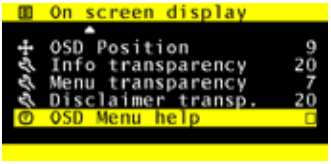


Figure 25

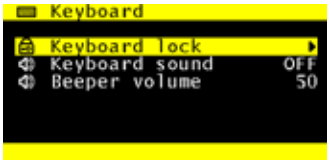


Figure 26

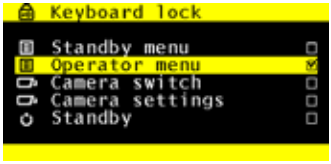


Figure 27

4.3.4. Power settings

See Figure 28. This menu has the following 2 options:

Standby mode

There are three available choices — use the minus and plus buttons to select the various functions.

MNU = With this setting you access the operator menu via the enter button (8). Select the required setting.

IMM = Immediate standby.

2S = Standby after a delay of 2 seconds.

Standby, camera off

If this option is enabled, the camera power is off during standby.

Figure 28

4.3.5. CAN bus

See Figure 29. This option opens the CAN bus menu. This menu has the following 4 options:

CAN protocol

This option selects the signal, or CAN protocol, that the Monitor uses. By default this is Orlaco CAN protocol 1. For the Orlaco Radar system*: Orlaco CAN protocol 6 must be set. Other protocols are customer-specific. The CAN speed is automatically adjusted, but it can also be set manually once the protocol has been selected.

Set CAN-ID

The Orlaco CAN protocol has an ID (default 0) to control multiple monitors via one CAN bus. The ID is inactive when the text is blue and becomes active when the protocol is set to 1. The CAN-ID can be set from 0-15 where 0 is the default value.

CAN speed

This option selects the bit rate of the CAN bus. Available options are: 100, 125, 200, 250, 500 and 1000 kbit.

Main terminator

Enable/disable the 120 Ω terminator (CAN or RS485) between Rx and Tx.

AUX terminator

Enable/disable the 120 Ω terminator (CAN or RS485) between AUX1 and AUX2.

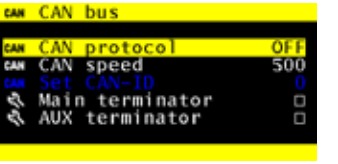


Figure 29

*Article No:
0208871
Monitor 7" RLED CAN Radar 6
0208371
Monitor 7" LEDD CAN Radar 6

4.3.6. LCD backlight

This option opens the backlight submenu for the 7" RLED/LEDD Monitor. See Figure 30. This menu has the following 4 options:

LCD backlight mode

This option enables automatic backlight control (ABC). The Monitor automatically adapts its brightness to the ambient light. If required, a specific day or night brightness can be manually set.

ABC minimum level

This setting determines the minimum brightness the ABC can use when there is low ambient light.

LCD backlight day

This option allows the day brightness setting to be manually adjusted (50–100%).

LCD backlight night

This option allows the night brightness setting to be manually adjusted (0–50%).

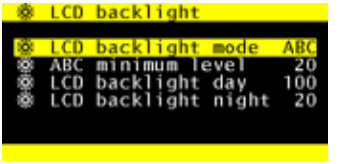


Figure 30

4.3.7. Scanning

This option opens the camera scanning submenu. See Figure 31.
This menu has the following options:

Scan sequence

This option selects the cameras from which images are to be shown in sequence.

Scan interval

This option selects how long a camera image is displayed.

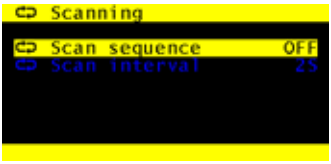


Figure 31

4.3.8. Camera switch

This option configures the type of video switch that is used. See Figure 32.

'OFF' if no camera switch is used → 1 camera system.

'3C' for an external camera switch → 3 camera system.

'2C' if a *2–4 camera cable* is used → 2 camera system.

'4C' if a combination of internal and external switches and a *2–4 camera cable* are used → 4 camera system.

'QUA' for a quad system, only in combination with the Multiview box.

Figure 32

4.3.9. Front camera

See Frontcam manual 0993850. This option opens the front camera submenu for the 7" RLED/LEDD Monitor. This enables the front camera functionality (a statutory obligation).

Function AUX wire, see figure 34a

Defines the function of the AUX1 & AUX2 switching wires (grey and yellow). Select **TCH** for the tachometer function (Tacho to AUX1 and hand brake to AUX2) or **ZOO** for the camera zoom function (only available in combination with an auto focus camera). Use in this case the AUX1 & AUX2 switching wires to zoom in and out. Select **KEY** to block the keyboard fully by activating the wire AUX1.

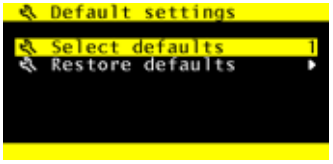


Figure 33

Figure 34

4.3.10. Default settings

This option opens the menu to restore the factory default settings. Select the number of the factory settings that you require (1 = default Orlaco settings). You can choose between 30 sets of default settings. Contact ORLACO for further information. Select the option 'Restore defaults' to restore the factory settings.

Warning:

All user settings are lost when the factory defaults are restored!

Figure 34a

4.3.11. External device configuration

This option opens the configuration menu for an external device. Only use this option if a device is connected that has its own OSD (Multiview, Spectrum Scanner, etc.). Exit the menu by pressing the option button (5) for 3 seconds.

4.4. Info

This user manual describes the functions of the software version indicated on this Monitor (see Figure 35).

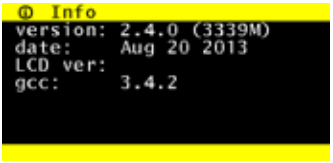


Figure 35

5. Using the operator menu

The operator menu is not available by default due to the keyboard lock. To disable the lock, refer to system settings on page 15.

Press the minus and plus buttons simultaneously to open the operator menu. The following buttons are used for navigation:

5 - Option/previous menu:
Return to the previous menu

6 - Minus:
Go to the next menu option

7 - Plus:
Go to the previous menu option

8 - Enter:
Select or enable the chosen option

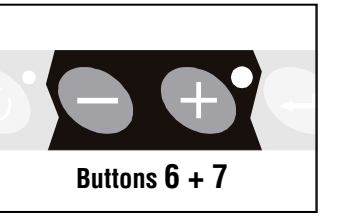


Figure 36

The following settings can be adjusted (see Figure 37):

Language
Camera settings
Set video channel

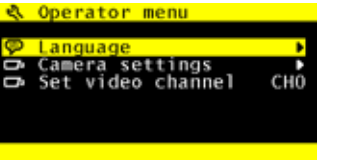


Figure 37

5.1. Language

This option opens the language selection menu (see Figure 38). The selected language will be used for all OSD (On Screen Display) menus. The OSD menu is available in English, Dutch, German, French, Chech, Hungarian, Italian, Polish, Portuguese, Spanish, Turkish, Swedish, Finnish, Danish and Norwegian.

Figure 38

5.2. Camera settings (see Figure 39)

Horizontal line mark
Enable this option to show a reference line. The reference line is displayed as a horizontal green line. See Figure 40.

Line position
Adjusts the vertical height of the reference line. 0 corresponds to the top edge of the monitor and 100 to the bottom edge.

Vertical line mark
Enable this option to show a reference line. The reference line is displayed as a vertical green line. This option is not available on all RLED/LEDD models. See Figure 40.

Line position
Adjusts the vertical position of the reference line. This can be set between 38 and 63. The left and right sides swap position depending on the settings of the camera mirror-image function.

Graticule
This option shows a graticule for a rearview camera on the monitor. See Figure 40.

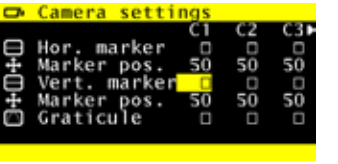


Figure 39

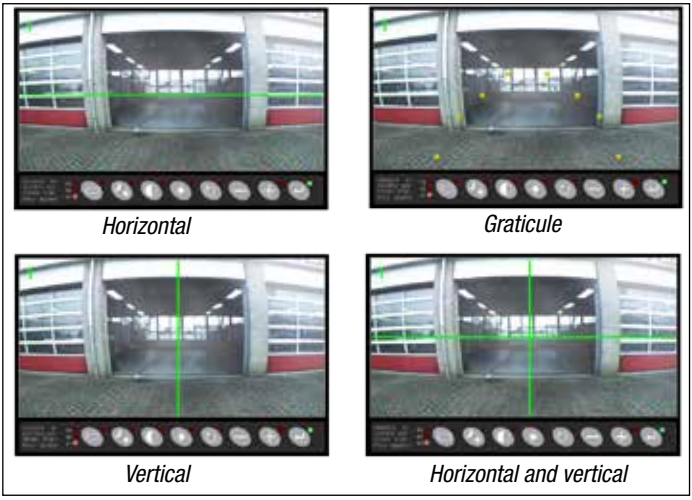


Figure 40

Figure 41

5.3. Video channel settings

See Figure 41.

This option sets the video channel for the Orlaco Spectrum Scanner (see Figure 42).

The following options are available:

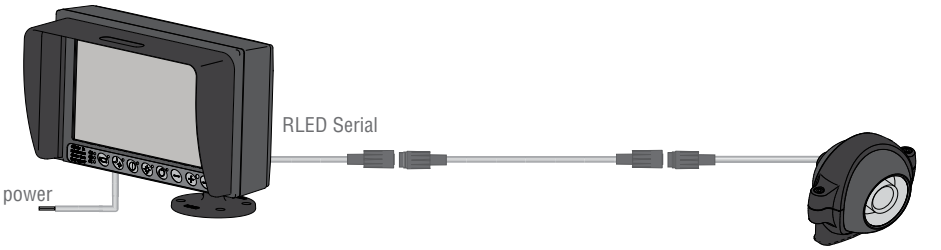
CH0 = channel 0 to CH7 = channel 7

AUT = automatic

See the Spectrum Scanner IM0004060 installation manual for descriptions of these channels.

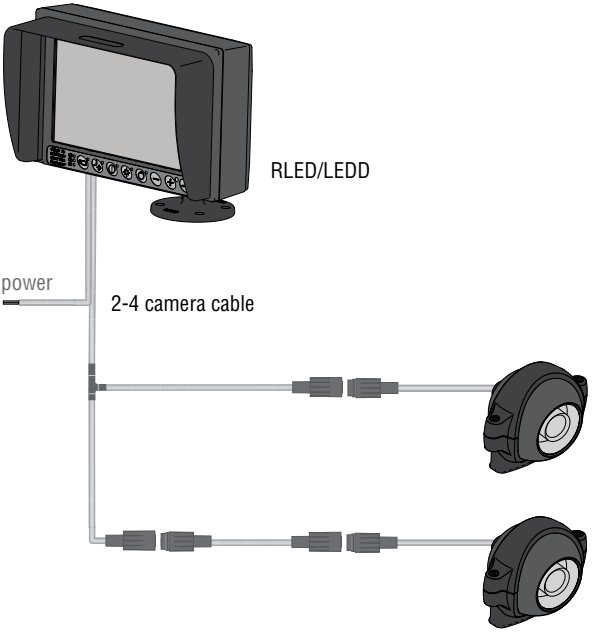
Figure 42

1 camera system

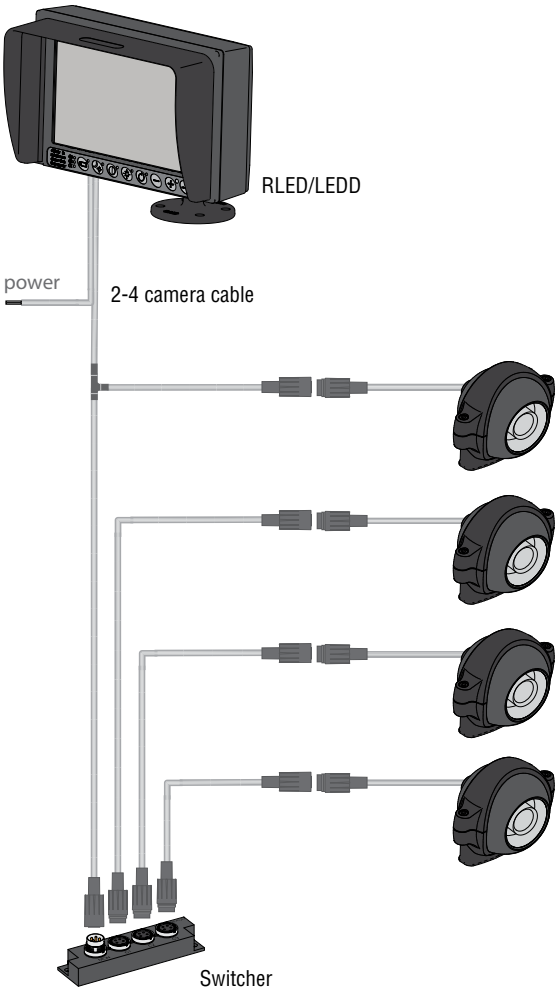


2 camera system

With Y-split cable



4 camera system
With Y-split cable



7. Overview of menus

Standby menu

Enter

Standby menu ↓	
Standby	Monitor is on but there is no picture
Info	Software information

Operator menu

The operator menu is not available by default due to the keyboard lock.

Minus- and Plus buttons

Operator menu ↓	
Language	English, Dutch, German, French, Czech, Hungarian, Italian, Polish, Portuguese, Spanish, Turkish, Swedish, Finnish, Danish and Norwegian.
Camera settings	Horizontal Marker, Marker position, Vertical Marker, Marker position, Graticule
Set video channel	CH0, CH1, CH2, CH3, CH4, CH5, CH6, CH7, AUT

Service menu

Camera- + Minus- and Plus buttons

Service menu ↓	
Camera settings	Mirror, Upside down, Brightness, Contrast, Saturation, Switch delay, Hor. Marker, Marker position, Vert. Marker, Marker position, Graticule, Cinema mode, Camera type, Video standard, Backlight, Zero Lux, Stabilizer, Color LUT, TIC DDE, Spot meter, Pan/Tilt,
Camera tags	1, 2, 3
System settings	
Info	

System settings ↓	
Language	English, Dutch, German, French, Czech, Hungarian, Italian, Polish, Portuguese, Spanish, Turkish, Swedish, Finnish, Danish and Norwegian.
On screen display	
Keyboard	
Power settings	
CAN-bus	
LCD-Backlight	
Scanning	
Camera switch	QUA, 4c, 2c, 3c, OFF
Frontcam	
Default settings	
Ext. device config	

On screen display ↓	
OSD timeout	ON, OFF, 30sec, 10sec, 3sec
OSD position	19 positions
Info transparency	29 positions
Menu transparency	29 positions
Disclaimer transp.	29 positions
OSD menu help	ON/OFF

Keyboard ↓	
Keyboard lock	
Keyboard sound	OFF, K+A, ALM, KEY
Beeper volume	0-100 positions

Keyboard lock ↓	
Standby menu	ON/OFF
Operator menu	ON/OFF
Camera switch	ON/OFF
Camera settings	ON/OFF
Standby	ON/OFF

Frontcam ↓	
Enable Frontcam	OFF 1c, 2c, 3c
Invert handbrake	ON/OFF
Pulses per meter	0-100
AUX wire function	OFF, TCH, ZOO, KEY

Default settings ↓	
Select default	1-21
Restore defaults	

Power settings ↓	
Standby mode	IMM, MNU, 2sec
Standby camera off	ON/OFF

CAN-bus ↓	
CAN-protocol	OFF, 1-6 positions
CAN-speed	1M, 500, 250, 200, 125, 100
Set CAN-ID	0 - 15
Main terminator	ON/OFF
AUX terminator	ON/OFF

LCD-backlight ↓	
LCD-backlight mode	ABC, NIT, DAY
ABC Minimum level	0-50
LCD-backlight day	50-100
LCD-backlight night	0-50

Scanning ↓	
Scan sequence	OFF, 1-2, 1-2-3
Scan interval	2s, 5s, 10s

8. FAQ

1. Mirror setting.

- Open the service menu by pressing simultaneously the 3 buttons; camera selection, plus and minus.
- Choose camera settings, and press enter.
- Select the camera to change by plus or minus button, and press enter.
- Press enter, and see if the image is ok.
- Press 3 times on the option (escape) key.

2. Monitor does not change automatically, and LED flashes at camera selection.

- Press the camera selection button.

3. Monitor is on camera 3 and is not to operate.

- Press for about 15 seconds on the option (escape) key.

4. Monitor works after booting about 2 seconds and then turns off.

- Press the enter key.

5. LED-C1 and LED-enter key flashes 4x in succession.

- Contact your installer for repairs to the system

6. Setting the monitor to control an auto-focus camera.

- Open the service menu by pressing simultaneously the 3 buttons; camera selection, plus and minus).
- Choose camera settings, and press enter.
  If the yellow dot does not go to C1, press repeatedly on the minus or plus key until it is able to C1.
- Press once the enter button, and then repeatedly press the minus button until the yellow dot is placed behind camera type, press the enter button, and then press the plus key (CCC has now turned into AFZ), press the enter button.
- Press 3 times on the option (escape) button.

Buttons 1 2 3 4 5 6 7 8

Description of the keyboard:
See chapter 1, page 6.

ORLACO

Orlaco is a Manufacturing company that specializes in making cameras and monitor systems for commercial vehicles, fork-lift trucks, cranes, off shore and maritime.

Our objective is to design and produce camera systems for the professional market that improve the drivers' view and increase operating efficiency.

At our facility in Barneveld we locate our design, manufacturing, warehousing and service department.

Vision is our mission. Orlaco therefore deploys the development, manufacture, supply and service of camera and Monitor systems that will improve safety and efficiency of all vehicles, machinery and vessels. Our systems give the end user a view on each blind spot and will create comfort and improved working conditions. Our active approach will support market demands and innovations and will lead to enthusiastic ambassadors in the market; our customers.

For more information: www.orlaco.com

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